U.S. Department of the Interior
Bureau of Land Management
White River Field Office
73544 Hwy 64
Meeker, CO 81641

ENVIRONMENTAL ASSESSMENT

NUMBER: CO-110-2005-150-EA

CASEFILE/PROJECT NUMBER (optional): COC58687 (Well No. 13-12-598)
COC58688 (Well No. 33-10-598)

PROJECT NAME: Williams' Puddin Ridge 13-12 and 33-10

LEGAL DESCRIPTION: T. 5 S, R. 98 W, Sec. 12, NW¼ SW¼ , 6th P.M.(Well No. 13-12)
T. 5 S, R. 98 W, Sec. 10, NW¼ SE¼ , 6th P.M. (Well No. 33-10)

APPLICANT: Williams Production RMT Company

ISSUES AND CONCERNS (optional): Williams has established a verbal agreement with property owners to access locations 13-12 and 33-10 using the BLM-preferred route (see Fig. 1). Written notice was faxed to the Field Manager confirming this agreement (received on 6 July 2005). A separate ROW application for the pipeline route for each location will be submitted by Bargath, Inc. The onsite evaluation for the proposed action locations did not include a pipeline ROW, and a pipeline route was not discussed.

DESCRIPTION OF PROPOSED ACTION AND ALTERNATIVES:

Background/Introduction: Applications have been received to construct two well pads and access roads. Dominant vegetation at the proposed location for well 13-12 and 33-10 is mountain big sagebrush (*Artemisia tridentata* var. *pauciflora*), with serviceberry (*Amelanchier* spp.), mountain mahogany (*Cercocarpus montanus*), bitterbrush (*Purshia tridentata*), and black sagebrush (*Artemisia nova*) scattered throughout. The elevation at the proposed location for well 13-12 is 8,288 feet, and 8,241 feet at location 33-10. Well density at the proposed location for 13-12, and 33-10 is <1 producing wells per square mile. Road density equals approximately 3.51 and 3.16 miles of road per square mile for locations 13-12 and 33-10, respectively.

Proposed Action: The applicant proposes to construct two well pads with dimensions of 200 x 300 feet (1.38 acres; 2.76 total acres). Total area disturbed to construct the well pads will be approximately 3.16 acres. In addition, the applicant proposes to upgrade approximately 35 x 9,206 feet (7.39 acres) of existing two-track road to access the proposed location for well 13-12, and 35 x 5,633 feet (4.52 acres) of existing two-track road to access the proposed location for

well 33-10. Total disturbed area to accommodate both well pads and access roads will equal approximately 10.55 acres.

Plans for improvement and/or maintenance of existing roads are to maintain in as good or better conditions than at present. Access roads and surface disturbing activities will conform to standards outlined in the USGS publication (1978) Surface Operation Standards for Oil and Gas Development.

Produced waste water could be confined to the pit for a period of 90 days after initial production. During the 90 day period the required waste analysis will be submitted for the Authorized Officer's approval, pursuant to Onshore Oil and Gas Order No. 7 (NTL-2B). A permanent steel tank will be installed in the ground next to the production facilities to contain any produced water for the duration of the well.

Water based reserve pit fluids will be backfilled within one year of construction or by the end of the succeeding summer to allow for evaporation of fluids unless an alternative method of disposal is approved. The backfilling of the reserve pit will be done in such a manner that the mud and associated solids will be confined to the pit and not squeezed out and incorporated into the surface materials. There will be a minimum of three feet of cover (overburden) on the pit. All remaining cutting will be solidified and buried in place, or disposed of in an approved manner. The stockpiled ground cover will be evenly distributed over the disturbed areas. The recommended seed mix to be used on all disturbed areas will be determined by the White River Field Office. The dirt contractor will be provided with an approved copy of the surface use plan.

Chemical pesticides or any other control agent which represents a potential soil, air or water pollutant will not be utilized for any purpose on public lands without express written authorization from the Authorized Officer of the BLM.

The Operator or his contractor will notify the BLM, White River Field Office, (970) 878-3800, forty-eight (48) hours before starting reclamation work that involves earth-moving equipment and upon completion of restoration measures.

During the environmental assessment process for this area, cultural resource clearance inventories were prepared and have been submitted under separate cover dated 10 December 2004 by Grand River Institute. Paleo, raptor and threatened and endangered species surveys have been done for the proposed location.

The anticipated start date is 1 July 2005 for well 13-12 the anticipated start date for wells 33-10 15 June 2005. The anticipated duration for construction related activities at each location is 45-60 days which includes drilling and completion.

No Action Alternative: The wells would not be permitted; there would not be any surface disturbances.

NEED FOR THE ACTION: To respond to request by applicant to exercise lease rights and develop potential hydrocarbon reserves.

PLAN CONFORMANCE REVIEW: The Proposed Action is subject to and has been reviewed for conformance with the following plan (43 CFR 1610.5, BLM 1617.3):

Name of Plan: White River Record of Decision and Approved Resource Management Plan (ROD/RMP).

Date Approved: July 1, 1997

Decision Number/Page: Pages 2-5 thru 2-6

Decision Language: "Make federal oil and gas resources available for leasing and development in a manner that provides reasonable protection for other resource values."

AFFECTED ENVIRONMENT / ENVIRONMENTAL CONSEQUENCES / MITIGATION MEASURES:

STANDARDS FOR PUBLIC LAND HEALTH: In January 1997, Colorado Bureau of Land Management (BLM) approved the Standards for Public Land Health. These standards cover upland soils, riparian systems, plant and animal communities, threatened and endangered species, and water quality. Standards describe conditions needed to sustain public land health and relate to all uses of the public lands. Because a standard exists for these five categories, a finding must be made for each of them in an environmental analysis. These findings are located in specific elements listed below:

CRITICAL ELEMENTS

AIR QUALITY

Affected Environment: The proposed access road and well pad is not located within a thirty mile radius of any special designation air sheds or non-attainment areas. Overall, the proposed action alone should not greatly compromise National Ambient Air Quality Standards (NAAQS) on an hourly or daily basis.

Environmental Consequences of the Proposed Action: Temporary reductions in vegetal cover resulting from construction activities will leave soils temporarily exposed to eolian processes. During dry and windy periods, air quality may be compromised due to increased levels of fugitive dust originating from the exposed construction area. Exhaust produced from production facilities and heavy equipment associated with the proposed actions combined with the increasing number of fluid mining activities in the Piceance Creek basin will have cumulative impacts detrimental to local air quality.

Environmental Consequences of the No Action Alternative: None

Mitigation: The operator will be responsible for complying with all local, state, and federal air quality regulations as well as providing documentation to the BLM that they have done so. To minimize production of fugitive dust, vehicle speeds must not exceed 15 mph or dust clouds must not be visible at appropriate speeds. The application of a dust suppressant (e.g. water or "Dust Stop") will be required during dry periods when dust clouds are visible at speeds less than or equal to 15 mph. Stockpiled soils will be covered when left for a period greater than one work day, and all disturbed areas will be promptly revegetated.

CULTURAL RESOURCES

Affected Environment: The proposed well pads and access road locations have been inventoried at the Class III (100% pedestrian) level (Conner 2004, Compliance Dated 12/14/2004) with no cultural resources identified in the inventoried area.

Environmental Consequences of the Proposed Action: The proposed well pads and access roads will not impact any known cultural resources.

Environmental Consequences of the No Action Alternative: There would be no new impacts to cultural resources under the No Action Alternative.

Mitigation: 1. The operator is responsible for informing all persons who are associated with the project operations that they will be subject to prosecution for knowingly disturbing historic or archaeological sites, or for collecting artifacts. If historic or archaeological materials are uncovered during any project or construction activities, the operator is to immediately stop activities in the immediate area of the find that might further disturb such materials, and immediately contact the authorized officer (AO). Within five working days the AO will inform the operator as to:

- whether the materials appear eligible for the National Register of Historic Places
- the mitigation measures the operator will likely have to undertake before the site can be used (assuming in situ preservation is not necessary)
- a timeframe for the AO to complete an expedited review under 36 CFR 800-11 to confirm, through the State Historic Preservation Officer, that the findings of the AO are correct and that mitigation is appropriate.

If the operator wishes, at any time, to relocate activities to avoid the expense of mitigation and/or the delays associated with this process, the AO will assume responsibility for whatever recordation and stabilization of the exposed materials may be required. Otherwise, the operator will be responsible for mitigation cost. The AO will provide technical and procedural guidelines for the conduct of mitigation. Upon verification from the AO that the required mitigation has been completed, the operator will then be allowed to resume construction.

2. Pursuant to 43 CFR 10.4(g) the holder of this authorization must notify the AO, by telephone, with written confirmation, immediately upon the discovery of human remains, funerary items, sacred objects, or objects of cultural patrimony. Further, pursuant to 43 CFR 10.4(c) and (d), you

must stop activities in the vicinity of the discovery and protect it for 30 days or until notified to proceed by the authorized officer.

INVASIVE, NON-NATIVE SPECIES

Affected Environment: Noxious weeds known to occur in the project area are houndstongue (*Cynoglossum officinale*) and yellow toadflax (*Linaria vulgaris*). Houndstongue was first found on Puddin ridge following construction of a gas well in the 1960s. The invasive annual cheatgrass is also found throughout the area, primarily associated with unrevegetated earthen disturbance adjacent to roads and pipelines.

Environmental Consequences of the Proposed Action: The proposed action will create about 11 acres of new earthen disturbance which will provide safe sites for the establishment and proliferation of noxious and invasive species. The proposed mitigation will reduce but not eliminate this negative impact.

Environmental Consequences of the No Action Alternative: There will be no change from the present situation.

Mitigation: Revegetation shall include all cut and fill slopes associated with access road and pad construction. Successful revegetation should be achieved within three years. The operator will be required to monitor the project site(s) for a minimum of three years post-construction to detect the presence of noxious/invasive species. Any such species which occur will be eradicated using materials and methods approved in advance by the Authorized Officer.

MIGRATORY BIRDS

Affected Environment: The project area for locations 33-10 and 13-12 consists primarily of mountain big sagebrush, with serviceberry, mountain mahogany, bitterbrush, and black sagebrush scattered throughout. There are a number of migratory birds that fulfill nesting functions in these types from May through mid-July, including several species identified as having higher conservation interest by the Rocky Mountain Bird Observatory, Partners in Flight program (e.g., Brewer's sparrow and sage sparrow). These and more common, generalized species associated with these habitats are widely represented at appropriate densities in extensive suitable habitats throughout the Resource Area.

Environmental Consequences of the Proposed Action: Although work is scheduled to begin during the latter part of the nesting season (i.e., mid July), it is highly unlikely that this project would have any negative impacts on nesting birds.

The development of reserve pits in the project area may be expected to attract waterfowl and other migratory birds for purposes of resting, foraging, or as a source of free water. It has recently been brought to the White River Field Office's attention that migratory waterfowl (i.e., teal and gadwall) have contacted oil-based drilling fluids stored in reserve pits during or after

completion operations and are suffering mortality in violation of the Migratory Bird Treaty Act. The extent and nature of the problem is not well defined, but is being actively investigated by the federal agencies and the companies. Until the vectors of mortality are better understood, management measures must be conservative and relegated to preventing bird contact with produced water and drilling and completion fluids that may pose a problem (e.g., acute or chronic toxicity, compromised insulation).

Environmental Consequences of the No Action Alternative: There would be no conceivable influence on migratory birds or their habitats under the no action alternative.

Mitigation: The operator shall prevent use by migratory birds of reserve pits that store or are expected to store fluids which may pose a risk to such birds (e.g., migratory waterfowl, shorebirds, wading birds and raptors) during completion and after completion activities have ceased. Methods may include netting, the use of bird-balls, or other alternative methods that effectively prevent use and that meet BLM approval. It will be the responsibility of the operator to notify the BLM of the method that will be used to prevent use two weeks prior to when completion activities are expected to begin. The BLM-approved method will be applied within 24 hours after completion activities have begun. All lethal and non-lethal events that involve migratory birds will be reported to the Petroleum Engineer Technician immediately.

THREATENED, ENDANGERED, AND SENSITIVE ANIMAL SPECIES (includes a finding on Standard 4)

Affected Environment: The project area for locations 33-10 and 13-12 consists primarily of mountain big sagebrush, with serviceberry, mountain mahogany, bitterbrush, and black sagebrush scattered throughout. There are no endangered or threatened species that are known to inhabit or derive important use from this area; however, greater sage-grouse, a BLM Species of Special Concern, occurs in the project area.

The proposed action for locations 13-12 and 33-10 would occur in suitable greater sage-grouse nesting habitat. Sage grouse typically inhabit open sage-dominated areas, with flat slopes for purposes of breeding and nesting. Sage grouse habitat in the Piceance Basin is naturally fragmented, with suitable nesting and breeding habitat occurring along ridge tops. Grouse populations that occur in the Piceance Basin are unique in their choice of habitat when compared to other sage grouse populations. According to Colorado Division of Wildlife (CDOW) records, less than half of the previously identified leks are currently active. Numerous factors including range management treatments, energy development, drought, and predation may have contributed to this decline. Currently, there are 4 known lek sites (3 active and 1 inactive) within 1.87 miles of the proposed location for well 33-10 and approximately 3.04 miles from location 13-12.

A GIS-based model was developed that identifies potential greater sage-grouse nesting habitat within the Piceance Basin using slope and vegetation. Spatial analysis of an 8,038 acre area with radius of 2 miles and centered on the nearest active lek identified 413 acres (5.1 %) as suitable nesting habitat. Further analysis identified approximately 160 acres of suitable nesting habitat

that would be potentially affected by oil and gas development as identified in the proposed action. Approximately 68 acres of suitable nesting habitat which may be adversely affected by the proposed action were identified within 2 miles of the nearest active lek.

Environmental Consequences of the Proposed Action: Quantifiable evidence of measurable effects (e.g., increased or decreased rates of recruitment, fecundity, or changes in demographics) to grouse as a result of increased vehicle traffic, noise, short and long-term disturbance due to road and well pad construction in the Piceance Basin, is inconclusive or does not exist. To date, most information that pertains to mechanisms of greater sage grouse population regulation is qualitative in nature, and most likely not directly applicable to the Piceance Basin grouse population. Cumulative loss of habitat as a result of direct and indirect reduction of suitable nesting area through increased vehicular traffic, noise and construction of access roads and well pads could remove approximately 160 acres of greater sage grouse nesting habitat in the project area. As specified in the White River ROD/RMP, when greater than 10% of nesting habitat is directly or indirectly affected, a timing limitation will be applied. As staked, 68 acres (16.5%) of suitable nesting habitat within a 2-mile buffered area (413 acres total) from the nearest active lek may be adversely impacted as a result of the proposed action. Short-term, local effects to sage grouse as a result of construction-related activities may include displacement of adult and sub-adult grouse into areas of reduced disturbance and increased rates of nest abandonment. In addition, an increase in mortality rates of adult and sub-adult grouse that occur in the project area because of collisions with vehicles may be expected. Long-term effects to sage grouse as a result of increased traffic to and from the well location may include permanent abandonment of areas adjacent to the access road and well pad, and decreased recruitment and fecundity rates. Mitigation that includes limiting vehicular travel along access roads during the breeding season may reduce impacts.

Environmental Consequences of the No Action Alternative: There would be no conceivable influence on special status species under the no action alternative.

Mitigation: 1. As specified in the White River ROD/RMP, when greater than 10% of nesting habitat within 2 miles of an active lek is directly or indirectly impacted, including cumulative loss of habitat, a timing limitation will be applied that limits further development. As such, development (i.e., construction-related activities) will not be allowed from April 15 through July 7.

Finding on the Public Land Health Standard for Threatened & Endangered species: The proposed and no-action alternatives would have no influence on special status species or associated habitats and, as such, would have no influence on applicable land health standards.

WASTES, HAZARDOUS OR SOLID

Affected Environment: There are no known hazardous or other solid wastes on the subject lands. No hazardous materials are known to have been used, stored or disposed of at sites included in the project area.

Environmental Consequences of the Proposed Action: No listed or extremely hazardous materials in excess of threshold quantities are proposed for use in this project. While commercial preparations of fuels and lubricants proposed for use may contain some hazardous constituents, they would be stored, used and transported in a manner consistent with applicable laws, and the generation of hazardous wastes would not be anticipated. Solid wastes would be properly disposed of.

Environmental Consequences of the No Action Alternative: No hazardous or other solid wastes would be generated under the no-action alternative.

Mitigation: The applicant shall be required to collect and properly dispose of any solid wastes generated by the proposed actions.

WATER QUALITY, SURFACE AND GROUND (includes a finding on Standard 5)

Affected Environment: Surface water: The proposed action will be situated within Mud Spring Creek, Clear Creek and Campbell Gulch watersheds. All of the affected watersheds are located in stream segment 14a of the Colorado River Basin. A review of the Colorado's 1989 Nonpoint Source Assessment Report (plus updates), the 305(b) report, the 303(d) list and the White River ROD/RMP was done to see if any water quality concerns have been identified. Stream segment 14a has been designated beneficial for the following uses: Cold aquatic life 1, Recreation 1b, water supply, and agriculture. Stream segment 14a has not been designated "Use Protected" and therefore the Antidegredation Rule is applicable to this reach. Table values outline maximum concentration levels for physical, biological, inorganic, and metallic substances in this segment.

Ground water: A review of the US Geological Survey Ground Water Atlas of the United States (HA 730-C) was done to assess ground water resources at the location of the proposed action. The shallowest aquifer underlying the proposed action is the Uinta-Animas aquifer. The Uinta-Animas aquifer at this location consists of the Uinta Formation and the Parachute Creek member of the Green River Formation. During the drilling process it is likely that deep ground water from the Fort Union Formation and Mesaverde Group also be encountered.

No springs will be encountered along the proposed access route.

Environmental Consequences of the Proposed Action: Construction of the access road and well pad will result in temporary exposure of soils to erosional processes. Heavy equipment used during construction combined with the removal of ground cover will increase erosive potential due to runoff (overland flows) and raindrop impact during storm events.

Local ground water may be contaminated if a spill results or pit contents are allowed to infiltrate soils. Adverse impacts on deeper ground water are possible as a result of cross aquifer contamination due to drilling.

Environmental Consequences of the No Action Alternative: None

Mitigation: No operations using chemical processes or other pollutants in their activities will be allowed to occur within 200 feet of any water bodies (including springs and seeps). The operator will be responsible for complying with all local, state, and federal water quality regulations as well as providing documentation to the BLM that they have done so.

All road and well pad construction must strictly adhere to "Gold Book" surface operating standards for oil and gas exploration and development. CMPs are not recommended on slopes less than 10% and will NOT be used as drainage relief structures for stream crossings/gullies or to drain inside drain ditches on slopes less than 3%. Based on the nature of the affected soils, drain dips will be utilized in place of CMPs in these locations.

Energy dissipaters such as large gravels/small cobbles will be used at culvert and drainage dip outlets to minimize additional erosion. To mitigate water being channelized down the roadway, all activity must stop when soils or road surfaces become saturated to a depth of three inches. Mud blading will be prohibited in attempts to reduce further soil displacement. In addition, to mitigate surface erosion due to removal of ground cover at well pads, stockpiled soils must be covered (if left for a period greater than one work day) and silt fences will be used on down gradient sides.

Complete reclamation will follow abandonment of well pads and access roads. Access roads and well pads will be recontoured, flow deflectors and sediment traps (woody debris) will be evenly redistributed over all disturbed areas, and 100% of disturbed surfaces will be revegetated with Native Seed Mix #6.

To mitigate contamination of local ground water, environmentally unfriendly substances (e.g. diesel) must not be allowed to contact soils. The use of impermeable matting under equipment is suggested to intercept such contaminants prior to contacting soils.

Furthermore, all pits must be lined and all wastes associated with construction and drilling will be properly treated and disposed of. Finally, aquifers beneficial for human consumption and livestock encountered during the drilling process must be properly isolated to reduce potential for contamination.

Finding on the Public Land Health Standard for water quality: Water quality in stream segment 14b currently meets standards set by the state. The proposed action may result in increased run-off which would elevate sediment loads in stream reaches below the proposed action. Spills or leaks of contaminants would further reduce water quality downstream adversely affecting macroinvertebrates, vertebrates, and algae populations. However, following proper mitigation/reclamation procedures, water quality in stream segment 14b should remain unchanged.

WETLANDS AND RIPARIAN ZONES (includes a finding on Standard 2)

Affected Environment: There are no wetlands or riparian communities directly or involved or potentially influenced by the proposed action.

Environmental Consequences of the Proposed Action: The proposed action would have no conceivable influence on wetlands or riparian areas.

Environmental Consequences of the No Action Alternative: There would be no conceivable influence on wetlands or riparian communities under the no action alternative.

Mitigation: None

Finding on the Public Land Health Standard for riparian systems: This project would have no conceivable potential for influencing wetlands or riparian habitats addressed in the Standards.

CRITICAL ELEMENTS NOT PRESENT OR NOT AFFECTED:

No ACEC's, flood plains, prime and unique farmlands, or Wild and Scenic Rivers, threatened, endangered or sensitive plants exist within the area affected by the proposed action. For threatened, endangered and sensitive plant species Public Land Health Standard is not applicable since neither the proposed nor the no-action alternative would have any influence on populations of, or habitats potentially occupied by, special status plants. There are also no Native American religious or environmental justice concerns associated with the proposed action.

NON-CRITICAL ELEMENTS

The following elements **must** be addressed due to the involvement of Standards for Public Land Health:

SOILS (includes a finding on Standard 1)

Affected Environment: The following data is a product of an order III soil survey of Garfield, CO conducted by the Natural Resource Conservation Service (NRCS). The accompanying tables highlight important soil characteristics. A complete summary of this information can be found at the White River Field Office.

CSU-1 fragile soils are mapped within the proposed project area. However, the proposed actions will not be situated on slopes exceeding 35% thus controlled surface use stipulations will not apply.

Soil Number	Soil Name	Slope	Ecological site	Salinity (mmohs/cm)	Run Off	Erosion Potential	Bedrock

Soil Number	Soil Name	Slope	Ecological site	Salinity (mmohs/cm)	Run Off	Erosion Potential	Bedrock
55	Parachute-Irigul complex	5-30%	Mountain Slopes/Loamy Slopes	<2	Medium-Rapid	Moderate-v. severe	13-25”
56	Parachute-Irigul-Rhone association	25-50%	Brushy Loam/Loamy Slopes	<2	Rapid	V. Severe	13-55”

55 – Parachute-Irigul complex (5 to 30 percent slopes) is found on mountain ridges and on the crests and sides of hills. The native vegetation is mainly grass and shrubs. The Parachute soil is moderately deep and is well drained. It formed in residuum derived dominantly from sandstone, siltstone, or hard shale. Typically the surface layer is grayish brown loam about 10 inches thick. The subsoil is brown very channery loam about 15 inches thick. Rippable, fractured siltstone is at a depth of about 25 inches. Permeability is moderate in the Parachute soil. The available water capacity is very low. The effective rooting depth is 20 to 40 inches. Runoff is medium or rapid, and the hazard of water erosion is moderate to very severe.

The Irigul soil is shallow and well drained. It formed in residuum derived dominantly from sandstone or hard shale. Typically, the surface layer is brown channery loam about 6 inches thick. The subsoil is brown very channery loam about 7 inches thick. Hard siltstone is at a depth of about 13 inches. Permeability is moderate in the Irigul soil. The available water capacity is very low. The effective rooting depth is 10 to 20 inches. Runoff is medium or rapid, and the hazard of water erosion is moderate to very severe.

56 – Parachute-Irigul-Rhone association (25 to 50 percent slopes) is located on tops of mountains and ridges and on the crests and sides of hills. The native vegetation is mainly Gambel’s oak, serviceberry, sagebrush, and grasses. The Parachute soil is moderately deep and is well drained. It formed in colluvium and residuum derived dominantly from sandstone, siltstone, and hard shale. Typically, the surface layer is grayish brown loam about 10 inches thick. The subsoil is brown very channery loam about 15 inches thick. Rippable, fractured siltstone is at a depth of about 25 inches. Permeability is moderate in the Parachute soil. The available water capacity is very low. The effective rooting depth is 20 to 40 inches. Runoff is rapid, and the hazard of water erosion is very severe.

The Irigul soil is shallow and well drained. It formed in residuum derived dominantly from sandstone or hard shale. Typically, the surface layer is brown channery loam about 6 inches thick. The subsoil is brown very channery loam about 7 inches thick. Hard shale is at a depth of about 13 inches. Permeability is moderate in the Rhone soil. The available water capacity is moderate. The effective rooting depth is 40 to 60 inches. Runoff is rapid, and the hazard of water erosion is very severe.

The Rhone soil is deep and well drained. It formed in colluvium and residuum derived dominantly from sandstone or hard shale. Typically, the surface layer is very dark grayish brown loam about 10 inches thick. The next layer is dark grayish brown channery loam about 29 inches thick. The subsoil is brown very channery loam about 16 inches thick. Rippable, fractured siltstone is at a depth of about 55 inches.

Environmental Consequences of the Proposed Action: Construction of the well pad and the access road will result in significant losses in vegetation and ground cover. Improper drainage from the project areas will increase potential for overland flows and accelerate erosional processes. Increased truck traffic will elevate soil compaction decreasing infiltration rates which in turn will also increase potential for erosive overland flows.

Leaks or spills of environmentally unfriendly substances (e.g. diesel or deep ground water) on or near the pad may contaminate soils hindering revegetation efforts. Soils unable to support a healthy plant community will be less cohesive (due to lack of root structure) and more vulnerable to erosional processes.

Environmental Consequences of the No Action Alternative: None

Mitigation: Comply with "Gold Book" surface operating standards for constructing the well pad and access road. Use drain dips in place of culverts on slopes exceeding 10%. Energy dissipaters such as large gravels/small cobbles will be used at culvert and drainage dip outlets to minimize additional erosion.

Flow deflectors and sediment traps (woody debris) must also be utilized in attempts to mitigate erosive potential of overland flows. Stockpiled soils must be covered and silt fences will be situated down gradient

To mitigate water being channelized down the roadway due to rut development, all activity must stop when soils or road surfaces become saturated to a depth of three inches. If rutting becomes an issue, the operator can haul in additional material to harden the road surface. Mud blading will be prohibited in attempts to reduce further soil displacement.

Complete reclamation will follow abandonment of well pad. The access road and well pad will be recontoured and 100% of disturbed surfaces will be revegetated with Native Seed Mix #6.

Finding on the Public Land Health Standard for upland soils: At the present time, soils in the vicinity of the proposed actions exhibit infiltration and permeability rates that are appropriate to soil type, landform, climate, and geologic processes. The proposed actions will cause decreases in both infiltration and permeability rates due to soil compaction and loss of vegetal cover. However, following proper mitigation the state of soil health should not be changed from current conditions.

VEGETATION (includes a finding on Standard 3)

Affected Environment: Vegetation at the proposed well locations and access roads is typical of ridgelines on the Roan Plateau and is dominated by mountain big sagebrush (*Artemisia tridentata ssp. vaseyana*) with an admixture of Utah serviceberry, snowberry, Gambel oak and a diverse understory of native grasses and forbs. The associated range site is Mountain Loam/Loamy slopes. The sites are in a mid seral ecological state.

Environmental Consequences of the Proposed Action: The principal impact to vegetation will be complete removal of vegetation on the well sites and new access roads and the earthen disturbance associated with it. In terms of plant community composition, structure and function, the principal negative impact over the long term would occur if invasive species or noxious weeds are allowed to establish and proliferate on the disturbed areas resulting from pad and access road construction.

Environmental Consequences of the No Action Alternative: There will be no change from the present situation.

Mitigation: Promptly recontour and revegetate all disturbed areas using Native Seed Mix #6. Revegetation shall include all cut and fill slopes associated with access road and pad construction. Successful revegetation should be achieved within three years. The operator will be required to monitor the project site(s) for a minimum of three years post-construction to detect the presence of noxious/invasive species. Any such species which occur will be eradicated using materials and methods approved in advance by the Authorized Officer.

Seed Mix #	Species (Variety)	Lbs PLS/ Acre	Ecological Sites
6	Basin wildrye (Magnar) Western wheatgrass (Rosanna) Pubescent wheatgrass (Luna) Orchard grass (Paiute) Fourwing saltbush (Wytana) Alternates: Crested wheatgrass, Cicer milkvetch (Monarch), Yellow sweetclover	2 3 3 1 1	Foothill Swale, Sandy Swale, Swale Meadow

Finding on the Public Land Health Standard for plant and animal communities (partial, see also Wildlife, Aquatic and Wildlife, Terrestrial)*:*)*:* Most of the public land plant communities within the area of the proposed action have an appropriate age structure and diversity of species which meet the criteria established in the standard for vegetation. With successful reclamation, the proposed action would not change this status.

WILDLIFE, AQUATIC (includes a finding on Standard 3)

Affected Environment: There are no aquatic habitats directly involved or potentially affected by the proposed action.

Environmental Consequences of the Proposed Action: The proposed action would have no conceivable influence on aquatic wildlife or habitats.

Environmental Consequences of the No Action Alternative: There would be no conceivable influence on aquatic wildlife or habitats under the no action alternative.

Mitigation: None

Finding on the Public Land Health Standard for plant and animal communities (partial, see also Vegetation and Wildlife, Terrestrial): This project would have no conceivable potential for influencing aquatic wildlife or habitats addressed in the Standards.

WILDLIFE, TERRESTRIAL (includes a finding on Standard 3)

Affected Environment: Wildlife species occurrences are typically dependent on habitat availability, relative carrying capacities, and degree of existing habitat disturbance. Dominant vegetation at the proposed location for well 13-12 and 33-10 is mountain big sagebrush (*Artemisia tridentata* var. *pauciflora*), with serviceberry (*Amelanchier* spp.), mountain mahogany (*Cercocarpus montanus*), bitterbrush (*Purshia tridentata*), and black sagebrush (*Artemisia nova*) scattered throughout. Based on data from the CDOW, the proposed location for well 13-12 and 33-10 is in elk and deer summer ranges. Because of their limited extent, deer and elk summer range has been designated as critical habitat in the White River Field Office area (USDI-BLM 1994).

Upland game birds that occur include mourning dove, blue grouse, and greater sage-grouse. The upland game bird species of most concern is the greater sage-grouse, which is classified as a Species of Special Concern by the BLM. Sage-grouse are discussed in greater detail in the section on Special Status Wildlife Species. On-site field evaluations were conducted on 12 November 2004. There is no suitable raptor nesting habitat within 1,500 feet of the proposed well pad and access road locations.

Environmental Consequences of the Proposed Action: The principle potential wildlife impacts likely to be associated with the proposed action may include: (1) direct loss of wildlife habitat, (2) decreased use of wildlife habitats through displacement of some wildlife species, (3) decrease in reproductive success and nutritional condition from increased energy expenditure due to physical responses to disturbance, (4) increase in the potential for collisions between big game, other wildlife, and motor vehicles, and (5) increase in the potential for poaching and harassment of wildlife.

Surface disturbances associated with the proposed action would result in the direct loss of elk and mule deer summer habitat. In addition, human activity associated with drilling activities and increased traffic could result in increased mortality from vehicle collisions and temporarily displace of elk and mule deer. Both species commonly avoid areas of human activity and would potentially disperse up to 300 feet from all activity areas (Hollowed, E., personal communication, May 2004). These disturbances would have minimal impact, thus no timing restrictions on construction activities would be mandated.

Construction and drilling activities may potentially increase direct impacts (including legal hunting, poaching, destruction of nests, and collisions with vehicles) of waterfowl and upland game birds, as well as indirectly add to displacement of these species in the area. In addition to human related direct mortality, coyote predation could also be increased. Coyotes readily use roadways (particularly traveled/compacted roadways) as travel corridors. The construction of

new access roads could increase the potential for coyote/prey interactions.

Environmental Consequences of the No Action Alternative: There would be no conceivable influence on wildlife or associated habitats under the no action alternative.

Mitigation: None

Finding on the Public Land Health Standard for plant and animal communities (partial, see also Vegetation and Wildlife, Aquatic): The project area presently meets the public land health standards for terrestrial animal communities. As conditioned, the proposed action would have negligible long term influence on the utility or function of big game, raptor, or non-game habitats surrounding this site. In an overall context, lands affected by the no-action or proposed action would continue to meet the land health standard for terrestrial animals.

OTHER NON-CRITICAL ELEMENTS: For the following elements, only those brought forward for analysis will be addressed further.

Non-Critical Element	NA or Not Present	Applicable or Present, No Impact	Applicable & Present and Brought Forward for Analysis
Access and Transportation			X
Cadastral Survey	X		
Fire Management		X	
Forest Management	X		
Geology and Minerals			X
Hydrology/Water Rights		X	
Law Enforcement		X	
Noise		X	
Paleontology			X
Rangeland Management			X
Realty Authorizations			X
Recreation			X
Socio-Economics		X	
Visual Resources			X
Wild Horses	X		

ACCESS AND TRANSPORTATION

Affected Environment: The proposed actions occur in an area that is open seasonally to cross-country motorized travel between from May 1 through September 30. Cross country motorized travel is limited to existing routes the remainder of the year. BLM road 1001 will provide access to proposed action and is currently an unmaintained two-track with an approximate running surface of 8 feet. In addition, the proposed action includes the construction of 1,250 feet of new road.

Environmental Consequences of the Proposed Action: A significant upgrade of BLM 1001 will change the access profile to this area from high-clearance four wheel drive route to a more easily traveled route increasing the likihood of an increase of both commercial and public traffic. In addition, the proposed action includes the construction of 1,250 feet of new road to access well pads.

Environmental Consequences of the No Action Alternative: None.

Mitigation: None.

GEOLOGY AND MINERALS

Affected Environment: William's well #33-10-598 is located on Federal Oil and Gas lease COC-58688 and well #13-12-598 is located on Oil and Gas lease COC-58687. This area is identified in the RMP as available for oil shale leasing. The surface geologic formation of the wells location is Uinta with the Green River, Wasatch and Mesaverde formations being penetrated during drilling. The targeted zone is located in the lower Mesaverde/upper Mancos. Potential water, oil shale, sodium, and gas zones will be encountered from surface to the targeted zone. Aquifers that will be encountered during drilling are the Perched in the Uinta, the A-groove, B-groove and the Dissolution Surface in the Green River formation. Oil shale resources will be encountered in the Green River formation. Potential Gas producing formations include the Wasatch and Mesaverde.

The Green River aquifer zones and the Wasatch are known for difficulties in drilling and cementing.

Environmental Consequences of the Proposed Action: Drilling and completion of this well may adversely affect the aquifers if there is loss of circulation or problems cementing the casing. The proposed cementing and completion procedure of the surface casing protects and isolates the aquifers in the Green River formation. Potential gas zones in the Wasatch will not be cover with cement which may allow the migration of gas along the annulus of the production casing. The Mesaverde will be covered with cement isolating the gas zones in the formation. Development of this well will deplete the hydrocarbon resources in the targeted formation.

Environmental Consequences of the No Action Alternative: None

Mitigation: The production casing should be cemented from TD to surface casing to cover the potential gas zones in the Wasatch.

PALEONTOLOGY

Affected Environment: The proposed well pads and access roads are in an area that is generally mapped as the Uinta Formation (Tweto 1979) which the BLM has classified as a Condition I formation meaning it is known to produce fossils of scientific interest.

Environmental Consequences of the Proposed Action: If it should become necessary to excavate into the underlying rock formation to construct the access road, level the well pad or excavate the reserve/blooie pit there is a potential to impact scientifically important fossil resources.

Environmental Consequences of the No Action Alternative: There would be no new impacts to fossil resources under the No Action Alternative.

Mitigation: 1. The operator is responsible for informing all persons who are associated with the project operations that they will be subject to prosecution for knowingly disturbing paleontological sites, or for collecting fossils. If fossil materials are uncovered during any project or construction activities, the operator is to immediately stop activities in the immediate area of the find that might further disturb such materials, and immediately contact the authorized officer (AO). Within five working days the AO will inform the operator as to:

- whether the materials appear to be of noteworthy scientific interest
- the mitigation measures the operator will likely have to undertake before the site can be used (assuming in situ preservation is not feasible)

If the operator wishes, at any time, to relocate activities to avoid the expense of mitigation and/or the delays associated with this process, the AO will assume responsibility for whatever recordation and stabilization of the exposed materials may be required. Otherwise, the operator will be responsible for mitigation cost. The AO will provide technical and procedural guidelines for the conduct of mitigation. Upon verification from the AO that the required mitigation has been completed, the operator will then be allowed to resume construction.

2. A paleontological monitor shall be required any time excavation into the underlying rock formation is necessary to build the access road, level the well pad or excavate the reserve/blooie pit.

RANGELAND MANAGEMENT

Affected Environment: The proposed action is entirely within the Pat Johnson use area of the Piceance Mountain allotment (06023). The proposed wells are within his summer pasture identified in the table below.

Summer Pasture				
Allotment Number	**Allotment Name**	**Cows**	**Yearlings**	**Season of Use**
06023	Piceance Mountain	550	---	7/1 – 11/15
		----	475	7/1 – 10/10

Environmental Consequences of the Proposed Action: The proposed action will result in the long term loss of about 2 animal unit months (AUMs) of livestock forage. If operations occur from May through November, truck traffic on access roads will create a large amount of airborne

dust which will be deposited on vegetation adjacent to roads. These deposits will impair plant function and also limit/prevent use of the vegetation by native and domestic herbivores. Further negative impacts to rangeland productivity could also occur if noxious/invasive species are allowed to establish in disturbed areas and subsequently proliferate and spread onto adjacent lands.

Environmental Consequences of the No Action Alternative: The will be no change from the present situation.

Mitigation: Revegetation shall include all cut and fill slopes associated with access road and pad construction. Successful revegetation should be achieved within three years. The operator will be required to monitor the project site(s) for a minimum of three years post-construction to detect the presence of noxious/invasive species. Any such species which occur will be eradicated using materials and methods approved in advance by the Authorized Officer.

If construction/development occurs between April 15 and November 15, the operator will be required to water or surface access roads to reduce airborne dust and damage to roadside vegetation communities.

REALTY AUTHORIZATIONS

Affected Environment: An Application for Permit to Drill has been received for the Puddin Ridge 13-12 and 33-10 wells and the off-lease/unit portion will required a right-of-way.

Environmental Consequences of the Proposed Action: The proposed action is for the use of the Logan Wash Road as the main access into the proposed well location. Williams has a right-of-way using the Scandard Draw route (also known as Trail Ridge Road), but due to access problems with a private land owner on the north end of this road, Williams opted to use Logan Wash. They have a right-of-way issued by the Grand Junction Field Office for the Logan Wash road (COC38510). The off-lease/unit portion of the access to the 13-12 and 33-10 wells and has been serialized as COC68681 and covers the following lands:

Sixth Principal Meridian, Colorado
T. 5 S., R. 97 W.,
Sec. 6, lot 8, 9, 10, 13, 14, S½NE¼, E½SW¼;
Sec. 7, NE¼NE¼;
Sec. 8, SW¼NE¼, NW¼, N½SE¼, SE¼SE¼.

T. 5 S., R. 98 W.,
Sec. 1, lot 5-7;
Sec. 2, W½SW¼;
Sec. 3, lot 5, SE¼NE¼, E½SE¼;
Sec. 10, NE¼SE¼;
Sec. 11, NW¼NE¼, S½NE¼, NE¼NW¼, NE¼SE¼.

Environmental Consequences of the No Action Alternative: Under the no action alternative, the application would be denied and a different access route would have to be found.

Mitigation: Standard stipulations for access roads from the BLM Manual 2801, Handbook H2801-1, Chapter VI, and the Gold Book standards will be applied along with developed mitigation from this EA.

RECREATION

Affected Environment: The proposed action occurs within the White River Extensive Recreation Management Area (ERMA). BLM custodially manages the ERMA to provide for unstructured recreation activities such as hunting, dispersed camping, hiking, horseback riding, wildlife viewing and off-highway vehicle use.

The project area most resembles a Recreation Opportunity Spectrum (ROS) class of Semi-Primitive Motorized (SPM). SPM physical and social recreation setting is typically characterized by a natural appearing environment with few administrative controls, low interaction between users but evidence of other users may be present. SPM recreation experience is characterized by a high probability of isolation from the sights and sounds of humans that offers an environment that offers challenge and risk.

Environmental Consequences of the Proposed Action: The public will lose approximately 26 acres of dispersed recreation potential while wells are in operation. The public will most likely not recreate in the vicinity of these facilities and will be dispersed elsewhere. If action coincides with hunting seasons (September through November) it will most likely disrupt the experience sought by those recreationists.

With the introduction of new well pads and roads, an increase of traffic could be expected increasing the likihood of human interactions, the sights and sounds associated with the human environment and a less naturally appearing environment.

Environmental Consequences of the No Action Alternative: No loss of dispersed recreation potential and no impact to hunting recreationists.

Mitigation: None.

VISUAL RESOURCES

Affected Environment: The proposed actions are located in an area with a VRM III classification. The objective of this class is to partially retain the existing character of the landscape. The level of change to the characteristic landscape should be moderate. Management activities may attract attention but should not dominate the view of the casual observer. Changes should repeat the basic elements found in the predominant natural features of the characteristic landscape.

Environmental Consequences of the Proposed Action: The proposed actions are all located on the tops of ridges with sagebrush and/or serviceberry being the major vegetation. Locating the well pads on the tops of ridges minimizes the extent of cuts and fills necessary for construction. The two locations would be approximately 14 miles distance from Piceance Creek Road (RBC 5), which would be the route most frequently traveled by a casual observer. The primary access to the proposed actions would be through private property. Major traffic in the area would be energy related activities, except during the fall big game hunting seasons when a limited number of hunters frequent the area. By painting all production facilities a darker shade of color to reflect less light and mimic the vegetation found at lower elevations and on adjacent ridges, the level of change to the characteristic landscape should be moderate and the objectives of the VRM III classification would be retained.

Environmental Consequences of the No Action Alternative: There would be no additional impact.

Mitigation: Paint all production facilities Juniper Green.

CUMULATIVE IMPACTS SUMMARY: This action is consistent with the scope of impacts addressed in the White River ROD/RMP. The cumulative impacts of oil and gas activities are addressed in the White River ROD/RMP for each resource value that would be affected by the proposed action.

REFERENCES CITED:

Conner, Carl E., Curtis Martin, Barbara J. Davenport and Nicole Darnell
2004 A Class III Cultural Resources Inventory for Eight Proposed Well Locations and Related Accesses in Rio Blanco and Garfield Counties, Colorado for Williams Production RMT Company. Grand River Institute, Grand Junction, Colorado.

Tweto, Ogden
1979 Geologic Map of Colorado. United States Geologic Survey, Department of the Interior, Reston, Virginai

PERSONS / AGENCIES CONSULTED: None

INTERDISCIPLINARY REVIEW:

Name	Title	Area of Responsibility
Nate Dieterich	Hydrologist	Air Quality, Water Quality, Surface and Ground Hydrology and Water Rights, Soils
Tamara Meagley	Natural Resource Specialist	Areas of Critical Environmental Concern, Threatened and Endangered Plant Species
Michael Selle	Archeologist	Cultural Resources Paleontological Resources

Name	Title	Area of Responsibility
Mark Hafkenschiel	Rangeland Management Specialist	Invasive, Non-Native Species, Vegetation, Rangeland Management
Brett Smithers	Natural Resource Specialist	Migratory Birds, Threatened, Endangered and Sensitive Animal Species, Wildlife, Wetlands and Riparian Zones, Wildlife Terrestrial and Aquatic
Bo Brown	Petroleum Engineer Tech/Hazmat Collateral	Wastes, Hazardous or Solid
Chris Ham	Outdoor Recreation Planner	Wilderness, Access and Transportation, Recreation
Robert Fowler	Forester	Fire Management, Forest Management
Paul Daggett	Mining Engineer	Geology and Minerals
Penny Brown	Realty Specialist	Realty Authorizations
Keith Whitaker	Natural Resource Specialist	Visual Resources
Valerie Dobrich	Natural Resource Specialist	Wild Horses

Finding of No Significant Impact/Decision Record (FONSI/DR)

CO-110-2005-150-EA

FINDING OF NO SIGNIFICANT IMPACT (FONSI)/RATIONALE: The environmental assessment and analyzing the environmental effects of the proposed action have been reviewed. The approved mitigation measures (listed below) result in a Finding of No Significant Impact on the human environment. Therefore, an environmental impact statement is not necessary to further analyze the environmental effects of the proposed action.

DECISION/RATIONALE: It is my decision to approve the proposed action with the mitigation measures listed below.

MITIGATION MEASURES:

1. The operator will be responsible for complying with all local, state, and federal air quality regulations as well as providing documentation to the BLM that they have done so. To minimize production of fugitive dust, vehicle speeds must not exceed 15 mph or dust clouds must not be visible at appropriate speeds. The application of a dust suppressant (e.g. water or "Dust Stop") will be required during dry periods when dust clouds are visible at speeds less than or equal to 15 mph. Stockpiled soils will be covered when left for a period greater than 10 hours, and all disturbed areas will be promptly revegetated.

2. The operator is responsible for informing all persons who are associated with the project operations that they will be subject to prosecution for knowingly disturbing historic or archaeological sites, or for collecting artifacts. If historic or archaeological materials are uncovered during any project or construction activities, the operator is to immediately stop activities in the immediate area of the find that might further disturb such materials, and immediately contact the authorized officer (AO). Within five working days the AO will inform the operator as to:

- whether the materials appear eligible for the National Register of Historic Places
- the mitigation measures the operator will likely have to undertake before the site can be used (assuming in situ preservation is not necessary)
- a timeframe for the AO to complete an expedited review under 36 CFR 800-11 to confirm, through the State Historic Preservation Officer, that the findings of the AO are correct and that mitigation is appropriate.

If the operator wishes, at any time, to relocate activities to avoid the expense of mitigation and/or the delays associated with this process, the AO will assume responsibility for whatever recordation and stabilization of the exposed materials may be required. Otherwise, the operator will be responsible for mitigation cost. The AO will provide technical and procedural guidelines for the conduct of mitigation. Upon verification from the AO that the required mitigation has

been completed, the operator will then be allowed to resume construction.

3. Pursuant to 43 CFR 10.4(g) the holder of this authorization must notify the AO by telephone with written confirmation immediately upon the discovery of human remains, funerary items, sacred objects, or objects of cultural patrimony. Further, pursuant to 43 CFR 10.4(c) and (d), you must stop activities in the vicinity of the discovery and protect it for 30 days or until notified to proceed by the authorized officer.

4. Revegetation shall include all cut and fill slopes associated with access road and pad construction. Successful revegetation should be achieved within three years. The operator will be required to monitor the project site(s) for a minimum of three years post-construction to detect the presence of noxious/invasive species. Any such species which occur will be eradicated using materials and methods approved in advance by the Authorized Officer.

5. The operator shall prevent use by migratory birds of reserve pits that store or are expected to store fluids which may pose a risk to such birds (e.g., migratory waterfowl, shorebirds, wading birds and raptors) during completion and after completion activities have ceased. Methods may include netting, the use of bird-balls, or other alternative methods that effectively prevent use and that meet BLM approval. It will be the responsibility of the operator to notify the BLM of the method that will be used to prevent use two weeks prior to when completion activities are expected to begin. The BLM-approved method will be applied within 24 hours after completion activities have begun. All lethal and non-lethal events that involve migratory birds will be reported to the Petroleum Engineer Technician immediately.

6. As specified in the White River Resource Management Plan (1997), when greater than 10% of nesting habitat within 2 miles of an active lek is directly or indirectly impacted, including cumulative loss of habitat, a timing limitation will be applied that limits further development. As such, development (i.e., construction-related activities) will not be allowed from April 15 through July 7.

7. The applicant shall be required to collect and properly dispose of any solid wastes generated by the proposed actions.

8. No operations using chemical processes or other pollutants in their activities will be allowed to occur within 200 feet of any water bodies (including springs and seeps). The operator will be responsible for complying with all local, state, and federal water quality regulations as well as providing documentation to the BLM that they have done so.

9. The operator shall comply with surface operating standards, as described in Surface Operating Standards for Oil and Gas Exploration and Development (1989) for constructing well pads, and access roads. In compliance with the resource management plan, drain dips will be used in place of culverts on slopes exceeding 10%. Energy dissipaters such as large gravels/small cobbles will be used at culvert and drainage dip outlets to minimize additional erosion.

10. To mitigate water being channelized down the roadway, all activity must stop when soils or road surfaces become saturated to a depth of three inches. Mud blading will be prohibited in

attempts to reduce further soil displacement. In addition, to mitigate surface erosion due to removal of ground cover at well pads, stockpiled soils must be covered and silt fences will be used on down gradient sides.

11. Complete reclamation will follow abandonment of well pads and access roads. Access roads and well pads will be recontoured, flow deflectors and sediment traps (woody debris) will be evenly redistributed over all disturbed areas, and 100% of disturbed surfaces will be revegetated with Native Seed Mix #6.

12. To mitigate contamination of local ground water, environmentally unfriendly substances (e.g., diesel) must not be allowed to contact soils. The use of impermeable matting under equipment is suggested to intercept such contaminants prior to contacting soils.
13. Furthermore, all pits must be lined and all wastes associated with construction and drilling will be properly treated and disposed of. Finally, aquifers beneficial for human consumption and livestock encountered during the drilling process must be properly isolated to reduce potential for contamination

14. Flow deflectors and sediment traps (woody debris) must also be utilized in attempts to mitigate erosive potential of overland flows. Stockpiled soils must be covered and silt fences will be situated down gradient

15. To reduce the impacts of compaction and rut development caused by increased traffic on the access road, only BLM authorized motorized vehicle travel will be permitted. Gate installation combined with additional physical obstructions (e.g. rock boulders) will be necessary (at desired locations) to keep unauthorized traffic from deteriorating the roadway.

16. The operator will be required to monitor the project site(s) for a minimum of three years post-construction to detect the presence of noxious/invasive species. Any such species which occur will be eradicated using materials and methods approved in advance by the Authorized Officer.

Seed Mix #	Species (Variety)	Lbs PLS/ Acre	Ecological Sites
6	Basin wildrye (Magnar) Western wheatgrass (Rosanna) Pubescent wheatgrass (Luna) Orchard grass (Paiute) Fourwing saltbush (Wytana) Alternates: Crested wheatgrass, Cicer milkvetch (Monarch), Yellow sweetclover	2 3 3 1 1	Foothill Swale, Sandy Swale, Swale Meadow

17. The production casing will be cemented from TD to surface casing to cover the potential gas zones in the Wasatch.

18. The operator is responsible for informing all persons who are associated with the project operations that they will be subject to prosecution for knowingly disturbing paleontological sites, or for collecting fossils. If fossil materials are uncovered during any project or construction

activities, the operator is to immediately stop activities in the immediate area of the find that might further disturb such materials, and immediately contact the authorized officer (AO). Within five working days the AO will inform the operator as to:

- whether the materials appear to be of noteworthy scientific interest
- the mitigation measures the operator will likely have to undertake before the site can be used (assuming in situ preservation is not feasible)

19. A paleontological monitor shall be required any time excavation into the underlying rock formation is necessary to build the access road, level the well pad or excavate the reserve/blooie pit.

20. Revegetation shall include all cut and fill slopes associated with access road and pad construction. Successful revegetation should be achieved within three years. The operator will be required to monitor the project site(s) for a minimum of three years post-construction to detect the presence of noxious/invasive species. Any such species which occur will be eradicated using materials and methods approved in advance by the Authorized Officer.

21. If construction or development occurs between April 15 and November 15, the operator will be required to apply water to surface access roads to reduce airborne dust and damage to roadside vegetation communities.

22. Standard stipulations for access roads from the BLM Manual 2801, Handbook H2801-1, Chapter VI, and surface operating standards, as described in Surface Operating Standards for Oil and Gas Exploration and Development Gold Book (1989), will be applied along with developed mitigation from this EA.

23. All production facilities will be painted Juniper Green.

NAME OF PREPARER: Brett Smithers

NAME OF ENVIRONMENTAL COORDINATOR: Caroline Hollowed

SIGNATURE OF AUTHORIZED OFFICIAL: _____
Field Manager

DATE SIGNED: 7/15/05

ATTACHMENTS: Map of Proposed Action 1:24,000
Location map of proposed action

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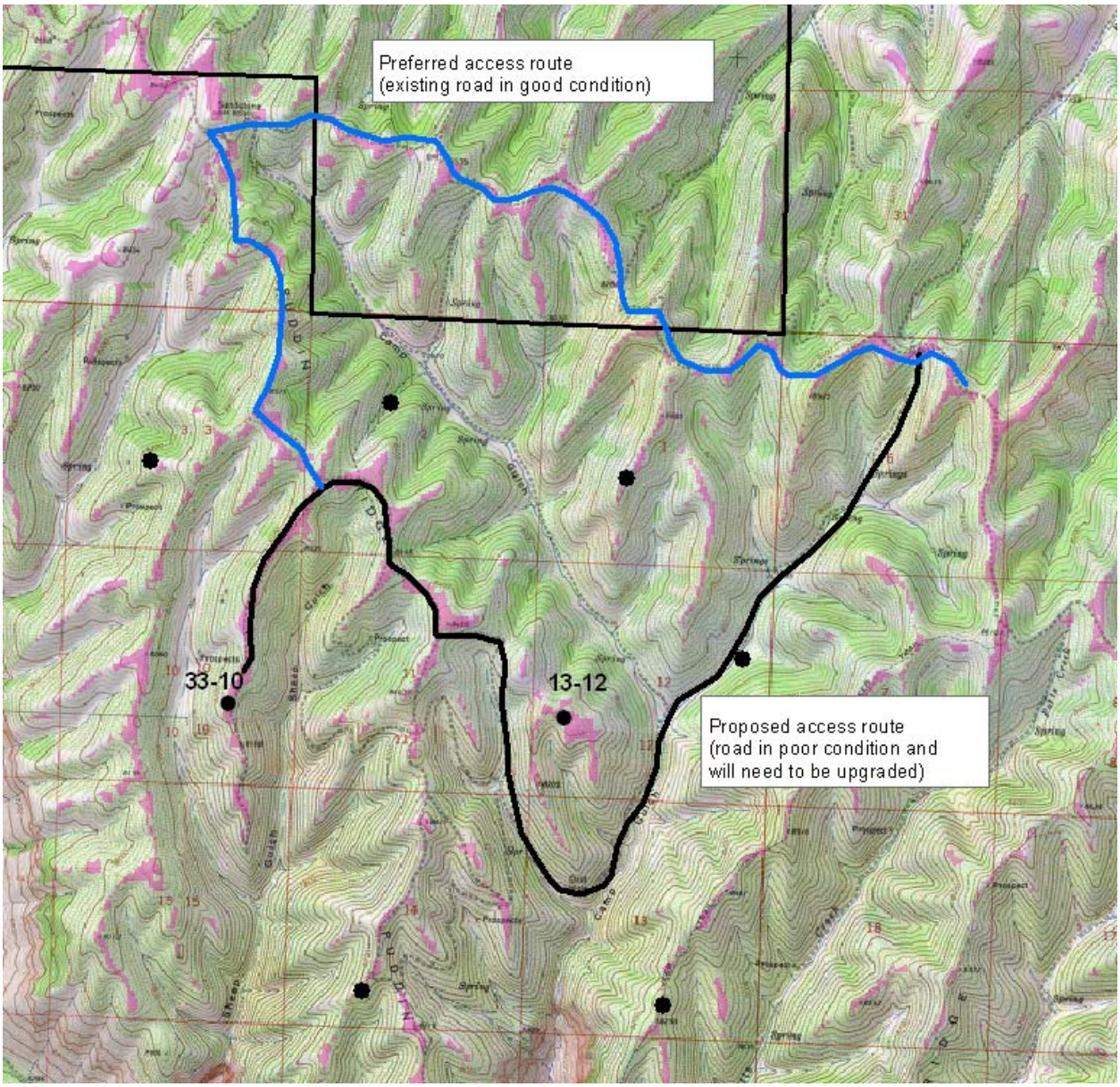

Figure 1. Preferred and proposed access route to locations 33-12 and 33-10.

Location of Proposed Action
CO-110-2005-150-EA